

J. J. HOTCHKISS.
MEASURING PUMP.
APPLICATION FILED MAY 27, 1909.

981,856.

Patented Jan. 17, 1911.

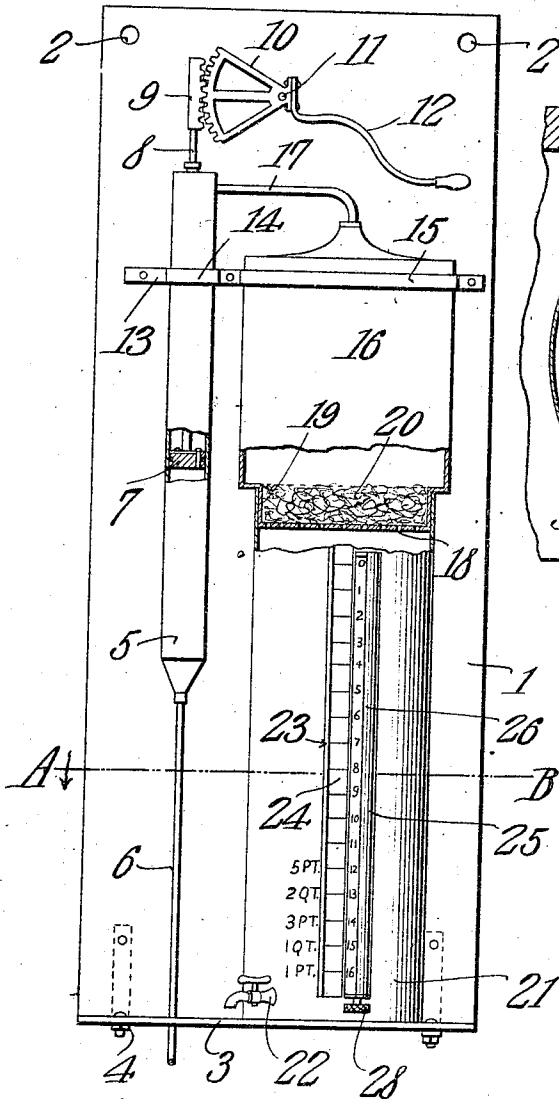


Fig. 1.

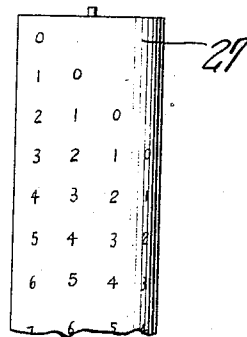
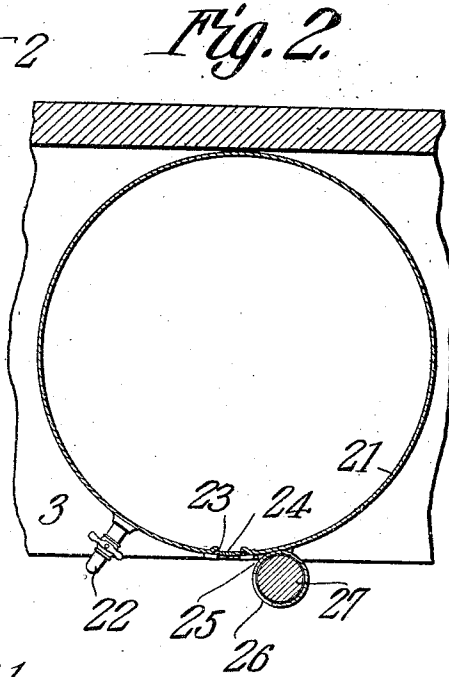


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH J. HOTCHKISS, OF RALEIGH, NORTH CAROLINA.

MEASURING-PUMP.

981,856.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH J. HOTCHKISS, a citizen of the United States, residing at 110 South West street, Raleigh, State of North Carolina, have invented a new and useful Measuring-Pump, of which the following is a specification.

This invention relates to apparatus for measuring liquid and one of its objects is to provide a device of this character which can be readily suspended from a wall or other supporting structure and which can be utilized for raising liquids from barrels or other receptacles and discharging them into a receiver, means being provided whereby any desired quantity can be removed from the receiver, the amount of the removed liquid being clearly indicated.

Another object is to provide means whereby the liquid is filtered after leaving the pump and prior to entering the receiver.

Another object is to provide a novel form of indicator whereby both the quantity of liquid contained within the receiver and the quantity being removed can be indicated.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view, partly in front elevation and partly in section, of the complete apparatus. Fig. 2 is an enlarged section on line A—B of Fig. 1. Fig. 3 is an elevation of one end portion of the revoluble member of the indicator.

Referring to the figures by characters of reference 1 designates a base or hanger formed of wood or other suitable material and having a desired number of openings 2 designed to receive hooks or other securing means extending from a wall or other supporting structure. Arranged upon the lower portion of this base is a shelf 3 arranged upon supporting brackets 4, this shelf extending throughout the width of the base 1.

A pump cylinder 5 is arranged longitudinally upon the base 1 adjacent one side thereof, and extending from the lower end of this cylinder is a tube 6 which projects downwardly below the shelf 3 and is designed to be connected to a flexible hose, and which may be inserted into a barrel or

other receptacle from which liquid is to be drawn.

A valved piston 7 is mounted to reciprocate within the cylinder 5, and the rod 8 of this piston has a rack-bar 9 at its upper end which meshes with a segmental gear 10. This gear is mounted for partial rotation upon a stud 11 extending from the base 2 and a lever 12 projects from the gear and constitutes means whereby the said gear can be oscillated for the purpose of producing a reciprocating movement of the rack bar 9 and the piston 7.

A retaining strap 13 is secured upon the base 1 and extends transversely thereof, said strap having a loop 14 which extends partially around the upper portion of the cylinder 5 and another larger loop 15 designed to extend partly around and to retain a filter casing 16. The upper end of this casing has a pipe 17 opening thereinto, said pipe extending from the upper portion of the pump cylinder 5. The lower end of the casing 16 is reduced annularly and is provided in the bottom thereof with a number of small openings 18. The reduced portion 19 of the casing 16 is designed to be filled with raw cotton or other fibrous filtering material such as has been indicated at 20.

A cylindrical receiver 21 is mounted upon the shelf 3 and is open at its upper end; this end being designed to receive the lower reduced end of the filter casing 16. A faucet 22 is arranged upon the lower portion of the receiver 21 and constitutes means whereby the liquid contents of the receiver can be drawn therefrom.

A slot 23 extends longitudinally within the wall of the receiver and is closed by a glass strip 24 provided with graduations, there being characters upon the wall of the receiver and adjacent the slot for indicating the quantity of liquid contained within the receiver when the level of such liquid reaches any one of the graduations. These characters are preferably arranged in a column, the lower graduation being designated by "1 pt.," the next graduation by "1 qt.," etc., although only a few of the designating characters have been shown in the drawing.

Secured upon the receiver 21 and parallel with the slot 23 is a tube 25 having a longitudinal slot 26 therein. A cylinder 27 is mounted for rotation within this tube and is provided with parallel columns of nu-

merals, each column beginning at its upper end with "0" and then continuing downwardly, the numerals in the columns being arranged in regular numerical order. The "0" of the first column is disposed close to the upper end of the cylinder, while the "0" of the next adjoining column is disposed opposite to the numeral "1" of the first column. The "0" of the third column is disposed directly opposite to the "1" of the second column, this stepped relation of the numerals being continued entirely around the cylinder. It will be noted that, by arranging the numerals in the manner stated, they form annular rows extending to the left from the "0" and the succeeding numerals of each annular row being arranged in regular numerical order. A knob 28 is secured to the lower end of the cylinder and is disposed below the tube, this knob being provided so that the cylinder can be readily rotated to bring the character "0" of one of the columns into position within the slot 26 and directly opposite any one of the graduations upon the strip 24.

In using the apparatus herein described the tube 6 is extended into a barrel or other receptacle from which liquid is to be drawn, and the pump piston 7 is then reciprocated by oscillating the gear 10. Each up stroke of the piston will result in the forcing of the liquid contents of cylinder 5 through tube 6 and into the filter casing 16. The liquid will flow downwardly through the filtering material 20 and into the receiver 21, it being understood that this operation may be continued until the receiver has been filled to the top graduation upon the strip 24. The graduations upon the receiver 21 will indicate the amount of liquid contained within the receiver. If it is desired to withdraw one quart, or two pints, of the liquid from the receiver the cylinder 27 is turned until the first column of figures is brought in position back of the slot 26 and with the first or "0" character opposite the upper end of the slot. The faucet 22 is then opened and the liquid drawn therethrough until the level of the liquid appears through the strip 24 on a level with the graduation numbered 2. Should it then be desired to draw off another quart of liquid from the

receiver, the cylinder 27 is turned until one of the characters "0" thereon assumes a position within the slot 26 and directly beside the graduation with which the level of the liquid registers. The liquid can then be drawn off through the faucet until the level thereof drops to the numeral 2 exposed within the slot. It will be seen therefore that this operation can be followed as long as any liquid is within the container. The graduations at the left of the slot and which are upon the wall of the receiver serve to indicate at all times the exact amount of liquid remaining within the container.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

The combination with a receiver having a graduated transparent portion extending upwardly from the bottom thereof, of a cylindrical longitudinally slotted member fixedly secured to said receiver close to and parallel with the transparent portion, said member being extended throughout the length of the transparent portion, a cylinder mounted for rotation within said member and having parallel columns of numerals, said columns being of different lengths and extending longitudinally of the element, the numerals in each column being arranged in regular numerical order increasing downwardly, each graduation on the transparent portion being at the same elevation as the upper numeral of one of the columns, and means outside of the slotted member for rotating said cylindrical element to expose any one of the columns of numerals within the slot and close to the transparent portion, said receiver having means thereon and close to the slot for indicating the total contents of the receiver.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH J. HOTCHKISS.

Witnesses:

D. ARDIN CARRICK,
GEO. W. CARRICK.